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ABSTRACT

Evaluation, as currently practiced in vocational education, may not contribute to program improvement; in fact, it may be counterproductive. Rather than asking how evaluations can be improved, it might be better to ask if a relationship does, in fact, exist between evaluation and program improvement and, if such a relationship exists, what new assumptions and approaches might improve that relationship. Current activities center around the provisions in the Vocational Education Amendments of 1976 and subsequent guidelines, which provided for the assessment of a sample of the students enrolled in vocational education in quantitative terms related to student achievement measures. Although the conventional notion is that if more resources were available for evaluation, the findings would be more interpretable for action alternatives, an alternative view suggests that the relationship of social problem solving to evaluation is not clear. Ordinary knowledge, social learning, and interactive problem solving (such as through public hearings) may, in reality, be the basis of social problem solving. Some alternative suggestions for the assumptions that underlie present vocational evaluation practices include (1) abandoning the pursuit of evaluation activities that are purported to contribute to improvement, but do not; and (2) focusing on content and learner decisions at the local level. Further educational research should be conducted apolitically, with the understanding that its findings will take at least a generation to be reflected in changed practices and should include much social research. (KC)

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EVALUATION: POLICY ISSUES

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FOREWORD

The use of evaluations is generally accepted today as a means to a specific end--that end being program improvement. Yet according to the premise of Jerry P. Walker's work, Evaluation and Program Improvement in Vocational Education, "As evaluation is currently configured and practiced in vocational education, there is little discernable evidence that it contributes to program improvement; in fact, in many cases evaluations may well be counterproductive to program improvement."

Offered in the spirit of constructive discussion by an author who favors the program improvement process, this publication's principal purpose is to motivate those responsible for voc ed evaluation or program improvement to reexamine their assumptions about the processes. With this in mind, Dr. Walker presents a review of these assumptions undergirding evaluation activities, along with alternative propositions to those assumptions. Having presented a counterview of the conventional relationship between evaluation and program improvement, Dr. Walker goes on to present recommendations for constructive change.

This paper is one of ten interpretive papers produced during the fifth year of the National Center's knowledge transformation program. The review and synthesis in each topic area is intended to communicate knowledge and suggest applications. Papers in the series should be of interest to all vocational educators including teachers, administrators, federal agency personnel, and researchers.

The profession is indebted to Dr. Jerry P. Walker for his scholarship in preparing this paper. Dr. Walker is Associate Director of the Office of Research, Development, and Training, in the Department of Industrial Science at Colorado State University, Fort Collins, Colorado. He was formerly Associate Director for Evaluation at the National Center for Research in Vocational Education.

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EXECUTIVE SUMMARY

In recent decades, evaluation has come into widespread use as a means for gathering data with which to make informed decisions in program improvement efforts. As evaluation in vocational education is presently practiced, however, little evidence can be found that it is contributing significantly to program improvement. Rather than asking how evaluations can be improved, we might better ask if a relationship does, in fact, exist between evaluation and program improvement, and if such a relationship does exist, what new assumptions and approaches might improve the relationship.

Current activities center around the provisions in the Vocational Education Amendments of 1976 (P.L. 94-482). Subsequent clarification of efforts, the 1977 guidelines and 1979 policy memorandum, provided for the assessment of a sample of the students enrolled in vocational education in quantitative terms related to student achievement measures while they are in school and by follow-up studies after they leave school. A national study of vocational education indicates that while this legislation is designed to serve program decisions, the federal definitions of improvement are being largely ignored and program improvement efforts are less than encouraging.

The conventional notion is that if more resources were available to increase the capacity to do evaluation, then findings would have greater validity, and be more interpretable into action alternatives, thereby increasing their utility for program improvement. An alternative view suggests that the relationship of social problem solving to evaluation is not totally clear. Ordinary knowledge, social learning, and interactive problem solving implemented through such procedures as committee deliberations and public hearings may, in reality, be the basis of social problem solving.

A thoughtful examination of the assumptions that undergird present practices is in order if constructive change is to result. Some alternatives for consideration include (1) abandoning the pursuit of evaluation activities that are purported to contribute to improvement but that, in fact, do not, and (2) focusing on content and learner decisions--their "rightness" and "fairness"--with the locus of decision making at the local level and decisions being both specific and public.

Educational research should be expanded. It should be conducted, however, under conditions that (1) are as apolitical as possible, (2) anticipate its findings to take at least a generation to be reflected in changed practices, and (3) insist upon as much social research as possible. A gradual shift is called for from an attitude of certainty to humility, from disdain for theory to centrality of theory, from evaluation to professional social inquiry, and from program improvement to social problem solving. It is from such a perspective that professionals can begin to design and implement effective evaluations.

INTRODUCTION

The purpose of this paper is to contribute to the improvement of vocational education by illuminating and examining the assumptions that undergird existing evaluation and decision-making practices. In recent decades, evaluation has come into widespread use as a means for gathering data with which to make informed decisions as efforts have increased to improve the delivery of services in all sorts of endeavors. Evaluative activities exist to support program improvement efforts.

If improvement is a virtually self-evident purpose of evaluation, why is there a need to examine the relationship between vocational education evaluation and program improvement? The reason is this: As evaluation is presently practiced in vocational education, there is little discernable evidence that it contributes to program improvement; in fact, in many cases evaluations may well be counterproductive to program improvement.

This premise is offered in the spirit of constructive discussion in favor of program improvement. Assertions that programs are, in fact, effectively being improved through evaluation cannot be accepted out of hand if an examination of the relationship between evaluation and program improvement is to be constructive. To do so might lead to the position that since programs are effectively being improved, all that is really needed is to do more of the same--or to somehow do it a little better. Continuation--or worse, escalation--of current evaluation policies and practices in vocational education could possibly lead to more harm than good, more ritual than action, more rhetoric than realism, and--perhaps most importantly--to more resentment than respect and shared commitment among the local, state, and federal levels of vocational education leadership.

How can evaluations be improved so as to improve vocational education more effectively? Two assumptions implicit in this question follow.

- o A positive relationship exists between the quality of evaluations and the quality of program improvement decisions.
- o Conducting existing evaluations more effectively will, therefore, result in more effective program improvement efforts.

These two assumptions are subject to discussion, however. It is better, perhaps, to pose the following questions.

- o Does a relationship exist between evaluation and program improvement?
- o If such a relationship exists, what new assumptions and approaches might improve the relationship?

- What additional agenda might be considered for inquiry, policy, and practice in vocational education to further the understanding and pursuit of more effective evaluations and program improvement efforts?

Informed answers to these questions can result only if the individual examining them is knowledgeable about the background of current evaluation policy and practice in vocational education. The most recent and clearest picture of vocational education's efforts in evaluation and program improvement is seen from the national perspective. It is only at this level that we can gain some general grasp of the directions being taken toward program improvement and the nature of the evaluations being conducted. In fact, some analyses of evaluation in vocational education use the language of federal legislation as the single template for determining the merit of evaluation practices in vocational education. Datta (1979) sees the purpose of the 1976 Vocational Education Amendments (P.L. 94-482) as being "to ensure that evaluation data will be used for planning, improvement and redirection" (p. 49). The inference that without the federal provisions, such data would not be so used is clear (ibid.).

> These provisions, which may seem tyrannous to those unfamiliar with the long history of only modestly interpretable and minimally utilized vocational education evaluations, might better be described as determined and forebearing. . . . The remarkedly prescriptive evaluation requirements of the amendments may be what is needed. (p. 49)

Two specific provisions for evaluations are contained in P.L. 94-482.*

A. Each State shall, during the five-year period of the State plan, evaluate the effectiveness of each program within the State being assisted with funds available under this Act; and the results of these evaluations shall be used to revise the State's programs, and shall be made readily available to the State advisory council; and

B. Each State shall evaluate, by using data collected, wherever possible, by statistically valid sampling techniques, each such program within the State which purports to impart entry level job skills according to the extent to which program completers and leavers--

   i. find employment in occupations related to their training, and

   ii. are considered by their employers to be well trained and prepared for employment. . . .

These two statements are messages from the U.S. Congress, which say, in effect: (1) evaluate all vocational education programs and use the evaluative data to improve them, and (2) determine (and demonstrate to us) that, in fact, vocational education students are getting and keeping jobs. They were operationalized through the evaluation guidelines presented in figure 1.

---

*Education Amendments of 1976, P.L. No. 94-482, 90 Stat. 081, Sec. 112 (b)(1).

FIGURE 1

SPECIFICATIONS IN THE REGULATIONS OF EVALUATION BY STATE BOARD

The state board shall, during the five-year period of the state plan, evaluate in quantitative terms the effectiveness of each formally organized program or project supported by federal, state, and local funds. These evaluations shall be in terms of:

(a) Planning and operational processes, such as:

(1) Quality and availability of instructional offerings;
(2) Guidance, counseling, and placement and follow-up services;
(3) Capacity and condition of facilities and equipment;
(4) Employer participation in cooperative programs of vocational education;
(5) Teacher/pupil ratios; and
(6) Teacher qualifications.

(b) Results of students achievement as measured, for example, by:

(1) Standard occupational proficiency measures;
(2) Criterion-referenced tests; and
(3) Other examinations of students' skills, knowledge, attitudes, and readiness for entering employment successfully.

(c) Results of student employment success as measured, for example, by:

(1) Rates of employment and unemployment;
(2) Wage rates;
(3) Duration of employment; and
(4) Employer satisfaction with performance of vocational education students as compared with performance of persons who have not had vocational education.

(d) The results of additional services, as measured by the suggested criteria under paragraphs (a), (b), and (c) of this section, that the state provides under the Act to these special populations:

(1) Women;
(2) Members of minority groups;
(3) Handicapped persons;
(4) Disadvantaged persons; and
(5) Persons of limited English-speaking ability.

SOURCE: Federal Register, October 3, 1977, Sec. 104. 402.

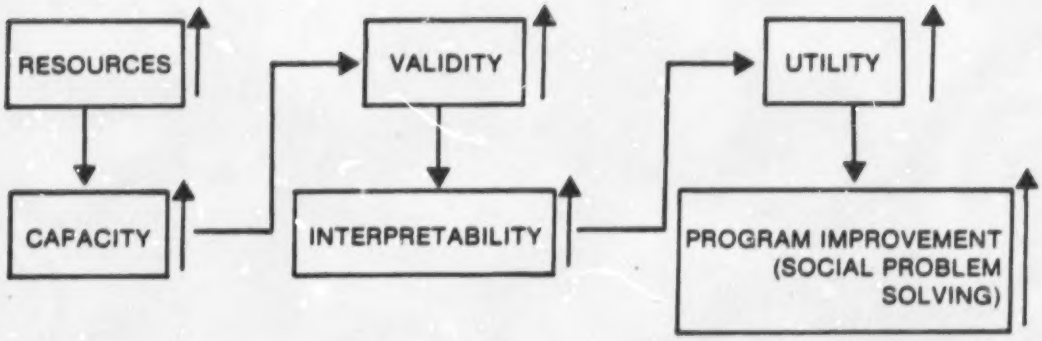
These guidelines provided for the assessment of virtually all of the some 17 million students enrolled in vocational education courses across the country. The assessment was to be completed "in quantitative terms" via various student achievement measures while they were in school and by one or more follow-up studies after they left school. Further, evaluation of each program and of planning and operational processes was required. Finally, the results of all additional services to special populations were to be quantified.

Although apparently specific, the guidelines were widely interpreted as being quite general--as saying in essence: "Do something 'evaluative' for all the programs during this five-year legislative period." As a result of the confusion surrounding the legislation and guidelines, a policy memorandum was issued by the Bureau of Adult and Vocational Education, U.S. Office of Education, in April of 1979, two and one-half years after the 1976 Amendments. This memorandum defined "program" and permitted states to evaluate a sample of programs during the five-year period--students within courses, courses within programs, programs within schools, schools within districts, or districts within states. Clearly, some national picture of vocational education was to be presented as a result of these evaluative activities.

Unfortunately, although these efforts were designed to serve program improvement decisions, they may have little actual relationship to program improvement efforts. An unprecedented national study of vocational education completed by the National Institute of Education (1977, 1979a, 1979b, 1980a, 1980b, 1981a, 1981b, 1981c) reveals a picture of program improvement in vocational education that is less than encouraging. In essence, the study says that the federal definitions of improvement are being largely ignored by vocational education and that those evaluation activities and criteria which are ostensibly intended to serve program improvement decisions have little actual bearing on program improvement.

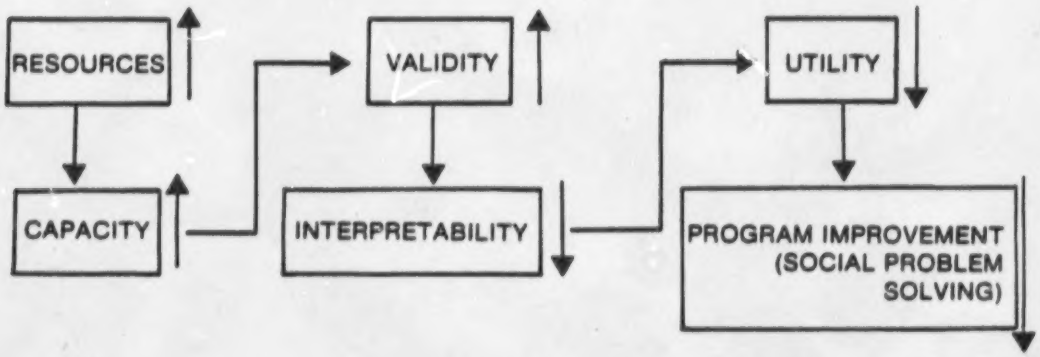
The study suggests, further, that there are two versions of reality in existence. One is the version of reality communicated in the array of information exchanges among the federal, state, and local levels of vocational education programs. The other is the version of reality perceived by those who actually observe programs in action. These two realities apparently do not bear any resemblance to each other. The problem lies in the contrast between the assumptions about evaluation and program improvement that underlie the first reality and the actual behavior that defines the second reality. The difficulty centers around the differences between rationalistic views of social change and professional social inquiry on the one hand and the realities of social problem solving on the other.

The conventional opinion is that if there were just more resources to increase the capacity to do evaluation, then the findings would have greater validity. Therefore they would be more interpretable in terms of action alternatives, thus the utility of evaluations to program improvement would be greatly increased. This notion can be displayed schematically as follows.



The counterview to this conventional wisdom holds that the relationship of evaluation to social problem solving is, at best, ambiguous. Social problem solving necessarily and appropriately takes place in a political environment. (Certainly, all of that part of social problem solving that is program improvement in vocational education takes place in a political environment.) That environment is value laden; a multiplicity of values exists; the values are fluid and contradictory; ordinary knowledge is authoritative knowledge; the decision-making groups are diffuse; convergence of opinion is sought; problems are without clear definition; and social interaction and social learning are themselves the major problem-solving strategies.

These conditions contrast with the assumptions associated with traditional evaluations; the stance is value free and disinterested, or if value based, the focus is on the stated program goals; the criteria or "dependent variables" are few, and they are unambivalent; authoritative knowledge is based on scientific conclusiveness; divergence in the implications from findings is more likely than convergence; the problem is well delimited; and analysis is the major problem-solving strategy advocated. Given this view, the schematic is as follows.



The differences between the first and the second views are fundamentally important in their implication regarding what to do about evaluation and program improvement. The solution given the first view is predictable. For

example, when state directors of vocational education were asked, "What factors hampered the development of evaluation activity in your state?" the most frequently cited reason (over 50 percent) was "inadequate resources" (Wentling 1980 cited in Haney 1980, p. 27). A less predictable and less orthodox response from the viewpoint of the second position, is seen in the summary recommendation to evaluators offered by Lindblom and Cohen (1979).

> To believe, as a thoughtful person might, that societies can make significant headway against social problems does not imply that they can do so through PSI [professional social inquiry]. For, as we have suggested, much of the world's work of problem solving is accomplished not through PSI but through ordinary knowledge, through social learning, and through interactive problem solving. (p. 8)

The problem with these two views is that they cannot be joined by accommodation, compromise, or even fiat. It is either basically true that the evaluations conducted in vocational education hold promise for program improvement if we can but do more of them and do them better, or it is true that the realities of social problem solving, as they now are and as they will remain, are such that their relationship to current evaluation practices remains, at best, spurious.

The closest one might come to accepting both views is to suggest a scenario that might set in motion a slow but cumulative series of incremental shifts in social problem-solving structures in vocational education. These shifts would recognize and build on the realities of social problem solving which are, at many points, antitheses to evaluation premises and practices. Eventually, a situation may emerge in which evaluations become a natural part of these processes. Such evaluations, however, may be quite alien to those processes that today's assumptions about professional social inquiry permit us to imagine. Such a scenario will be discussed in a section to follow. First, however, there is a necessity to define those propositions about social problem solving and professional social inquiry that help explain their independence from, or even antagonism to, each other.

ISSUES IN EVALUATION

A need exists to demonstrate the difficulties of actually conducting evaluations--difficulties that stem from the limited capacity of vocational education to do so and the unlikely validity of the findings even if capacity posed no problem. The more important task, however, is to explain as fully as possible why the paramount obstacles to the relationship between evaluation and program improvement result from inabilities to interpret and act on evaluative information, whatever its validity may be.

Thus, in the sections to follow, each of the four conditions of capacity, validity, interpretability, and utility are examined in terms of the assumptions that one must accept in order to have confidence that the condition is likely to exist. In the case of tenuous assumptions, counterassumptions are offered in the form of propositions about that condition.

Capacity

Assumptions that one must accept in order to have confidence in the capacity of vocational education to conduct sound evaluations follow.

1. Local school districts have a sufficient number of competent evaluators who are available to design evaluations, collect and analyze data, and provide evaluative findings about the needs, processes, and products of vocational education programs.

2. Sufficient resources are available to local vocational education units to enable them to acquire, maintain, and update the facilities, materials, and equipment necessary to conduct sound evaluations.

The accuracy of these two assumptions is not certain.

A comparison of vocational education evaluation requirements and resources with those of Title I of the Elementary and Secondary Education Act (Disadvantaged) and of the Education for All Handicapped Children Act (P.L. 94-142), suggests that (1) the requirements for vocational education are more extensive, (2) there is less likelihood of the results being useful for program improvement purposes, and (3) the resources and assistance for conducting the evaluations are more limited. Haney (1980) summarizes his views on this point as follows:

> In sum, then, it seems to me that there are several different grounds for concluding that the current federal mandate for evaluating vocational education is overly ambitious. . . . Current requirements impose both

reporting and financial burdens on agencies implementing vocational education programs with federal support. . . . The requirements for vocational education are far more extensive, [than those for Title I and P.L. 94-142] . . . yet at the same time far less fully supported either in terms of funding or technical assistance. . . . The major purpose of vocational education evaluation is program improvement at state, local, and institutional levels. Nonetheless, several of the evaluation criteria currently mandated for vocational education are of questionable utility in serving that end. (p. 40)

No one really knows how much evaluations in vocational education actually cost, and certainly not how much they should cost. Even though it has been argued earlier that an insufficient capacity to conduct evaluations has little bearing on whether programs are improved, the following proposition is offered as an alternative to the two assumptions just stated:

- o Proposition 1. It is unreasonable to expect local education agencies to have the resources and expertise necessary to conduct sound evaluations of their vocational education programs. Insisting that they attempt this despite their inability to do so ensures that most of the subsequent evaluative findings will be inadequate and, perhaps, suspect.

Validity

Validity refers to the extent to which the findings from professional social inquiry (or evaluation) are likely to be true. More technically, it is defined as the extent to which findings can be defended against the challenges of rival hypotheses. Two assumptions necessary in order for us to accept the validity of vocational education evaluation findings are these.

1. Inquiries that purport to assess the consequences of vocational education can attribute those consequences to vocational education courses and programs.

2. Inquiries that purport to demonstrate the effectiveness of vocational education processes can demonstrate the consequences accruing from those processes.

In both of these assumptions, the requirement for attribution is clear. In the first assumption, a relationship is called for between necessary antecedents and conditions. In the second, the relationship between antecedents and necessary consequences is required. While it is true that in many cases logic, not evidence, can be called upon to establish these relationships, it is also true that when rival interpretations are at least as plausible as the logic or evidence cited to demonstrate the relationship, the validity of the findings is called into question. Consider the following examples of "impact findings" relating to the first assumption.

- o Ninety percent of vocational education students find jobs related to their training.

- o The average wages of former vocational education students are 30 percent higher than those of general education students.

- o Most employers are very satisfied (60 percent) or quite satisfied (30 percent) with the work performed by their employees who were vocational education students.

Each of these is a positive statement about vocational education's impact. In the absence of evidence to the contrary, however, there is little reason to reject hypotheses such as the one that suggests that equivalent percentages of nonvocational students are also employed, well paid, and viewed by their employers as satisfactory workers.

In the extreme, it is impossible to reject all possible rival views because to do so would necessitate true experimental conditions in which all threats to internal and external validity are controlled. Because there are virtually no precedents in educational evaluation for the use of such designs (in which nontrivial consequences are studied), the practical issue is deciding on the point above or below which the conduct of studies of consequences (often termed impact or product evaluations) is worth it in terms of their validity trade-offs.

This same argument can be applied to process or formative evaluations. In these cases, if the intent is to demonstrate the relative effectiveness of some educational process, then the relationship between that process and an external standard of effectiveness must be well established by evidence or logic. For example, assume that a program review (evaluation) clearly demonstrates such facts as these: 100 percent of the teachers are certified, the facilities and equipment are state of the art, or all programs are based on job analyses. None of these facts necessarily bears any relationship to program effectiveness.

One of the subtle but important problems related to program reviews in vocational education is that they produce tautological truths: Programs are good if all the stated criteria are met, and good programs are those that meet all of the specified criteria. The fact that some form of program review is the most common and accepted type of evaluation in vocational education makes this an even more difficult problem. The wide range of processes typically evaluated through some combination of consultant teams and self-evaluations by local districts is apparent in the following list of separate evaluation forms available from the American Vocational Association for assessing vocational education institutions (Wentling and Lawson 1975, p. 24).

Distinguishing Characteristics
Philosophy and Objectives
Matching Objectives to Need
Indicators of Success
Delivery Systems
Organizations; Governing Body
Administration
Staff
Finance and Business Management
General Advisory Committee
Planning
Research and Evaluation
Recruitment and Admissions
Guidance and Counseling
Placement and Follow-up
Student Educational Records
Student Activities
Learning Resources
Physical Plant

The use of various checklists, standards, and criteria is common in many applications of professional social inquiry. But the prevalence of their use does not justify their worth. Braybrooke and Lindblom (1963) make a strong argument against such approaches in these views:

> One primitive approach that might be called "the naive criteria method" holds that merely announcing a few general values--"security," "employment," and "price stability" perhaps--supplies enough evaluative machinery to propel descriptive knowledge toward definite recommendations. . . .
>
> Besides being an inadequate method in practice, the naive criteria method is, of course, defective in conception, for it gives no clue as to the source, history, or relevance of the values postulated. They may, for all the method has to say, be invented on the spot. (pp. 6-7)

While these comments may be a bit overstated with regard to educational evaluations, they do call into question those assumptions that necessitate the attribution of antecedents or consequences as requirements for validity. This proposition is offered as an alternative to the two assumptions stated earlier:

- Proposition 2. The conditions required for designing and implementing the experimentally controlled evaluations necessary to determine vocational education's unique effects cannot be met or even approximated at state or local levels. The degree of equivocality of those evaluation findings, which cannot approximate these conditions, makes such evaluations counterproductive to improvement or accountability purposes.

Two additional key assumptions must be accepted if one has confidence in the validity of evaluation findings.

3. The individuals or agencies conducting the evaluations have no vested interests in whether the findings are positive or negative.

4. The units of observation and analysis can be unambiguously defined, and the observations can be reliably replicated.

Some doubt may exist as to whether the individuals charged with evaluating vocational education programs are entirely free of vested interests. Program review teams consist almost entirely of vocational educators. In fact, commonly used rotational strategies for selecting evaluation teams make it likely that evaluator and evaluatee roles will be reversed at some point in time.

State evaluation personnel report to a state director of vocational education--an individual who is required annually to provide quantitative findings that demonstrate the extent of progress toward program improvement goals in the state according to previously mandated and submitted plans. State advisory committees are charged with (and selected in large part on the basis of their) advocacy of vocational education. But they are also required to serve an independent evaluator role in their review of state plans and accountability reports.

The National Advisory Committee for Vocational Education must also fill similarly conflicting roles. The U.S. Department of Education, in turn, is responsible for monitoring evaluation activities and at the same time is responsible to the U.S. Congress for demonstrating that federal funds have been well spent. Finally, many of the independent agencies that conduct studies of vocational education's effectiveness are, themselves, largely dependent on the U.S. Department of Education for continued funding.

The point of the discussion of various roles and evaluation responsibilities is this: Virtually all groups involved in evaluating vocational education have other responsibilities that are inconsistent with those of a disinterested evaluator. Under these circumstances, it is unreasonable to expect validity standards will not be tempered by these other responsibilities. Thus, this proposition is offered concerning evaluation independence with regard to the validity of vocational education findings:

- o Proposition 3. Reports of studies of vocational education's progress or effectiveness conducted by agencies having a responsibility to further the interests of public vocational education should be perceived in the same manner as other advocacy statements from any agency that reports on its own progress and accomplishments.

Several important problems are encountered in considering the assumption regarding clarity of terms (unambiguous definition) and replicability of studies. Any research that purports to demonstrate that something has happened to someone must specify both what has happened and to whom. Typically referred to as "treatments" and "subjects" in experimental research, these two entities are usually termed "vocational education program" and "vocational education student" in evaluations of vocational education.

The problem in attempting to define these terms is that of meeting the research requirements of either homogeneity or known variation. In the case of homogeneity, one must assume that the vocational education students being investigated have had an equivalent exposure to the same "treatment" or program and that the differences among the students are not likely to independently account for what they did or did not learn or accomplish. If homogeneity cannot be reasonably assumed, then the differences in both students and programs must be ascertained and accounted for in the designs and statistical analyses.

It should be noted that these definitional points are not the issues that can always be cited in contrasting the realities of educational evaluation conditions with those of experimental research. Instead, they are virtually insurmountable obstacles to any practical hope of relating evaluation findings to program improvement decisions. This is true even if one were to make the nearly unimaginable assumption that scientific evidence is the principal basis for program improvement decisions in vocational education, in any area of public education, or--for that matter--in nearly any social problem-solving context. Aside from this issue--to which we will turn in the section on interpretability and utility--the definitional problems themselves are highlighted by observations such as the following:

- Nationally, less than one half of all vocational enrollees at the secondary level are in occupational preparation programs. (National Institute 1980b, p. VI-7)

- There are not uniform rules for establishing how many courses, class meetings or class hours per week constitute a program [for vocational education]. (National Institute 1980b, p. VI-5).

- All previous studies have suffered from the inadequacy of cost and benefit data available for vocational education. . . . A more rational course . . . must be . . . guided by agreed upon objectives and definitions of output to measure these objectives. (Hu and Stromsdorfer 1979, p. 214)

- Users of placement data should be very cautious when using placement data to make comparisons within and among states because of the numerous ways in which key terms are defined. (McKinney et al. 1978, p. 14)

The diversity and ambiguity of definitions are such that a "program completer" could be an individual who--

- spent less than one hour per day in a vocational course (a group that could include up to 90 percent of high school students according to a national survey completed in 1972); (National Institute 1980, p. VI-5)

- was enrolled in a separate vocational education institution for all of his or her junior and senior years of high school (as in the pattern with joint vocational school students in Ohio, for example);

- took a few courses in nonoccupational home economics;

- completed an associate's degree program in a postsecondary institution and may have had over four years of continual training in a specific occupation;

- completed a two- to three-day "quick-start" training program; or

- took a couple of high school vocational courses as an adjunct to avocational interests ranging from motorcycles to computers.

Nothing is necessarily wrong with the diversity of student purposes nor with the wide arrays in intensity, duration, and goals of vocational education programs. But there is something wrong with evaluations that are unable to discern these variations and explain their effects. The problem is that for whatever purpose such evaluations might be conducted, there can be no contribution to that purpose. For example, if the purpose of the evaluation is simply compliance, then valuable time and dollars are wasted in collecting data; an estimate would suffice. If, on the other hand, the purpose is accountability, the inability to account for the relationships between program and outcome variables is likely to lead more to a lack of confidence than to confidence. Finally, if the purpose is program improvement, the inability to

define "student" or "program" and the inability to demonstrate the relationship between them permit findings about either to become a springboard for a nearly infinite range of guesses about what or how to improve--guesses that might have more foundation if based on ordinary knowledge and intuition. These notions lead to the following proposition:

- o Proposition 4. If evaluations cannot demonstrate relationships between program characteristics and student outcomes, the chances of effective decisions being made in efforts to improve programs are essentially random.

The foregoing propositions are based on the assumption that the limitations of the information base provided through professional social inquiry are the principal obstacles to more effective social problem solving. This is not the assumption underlying this paper. Even if it were, formidable obstacles stand in the way of developing a resource and talent base with sufficient capacity to provide valid findings. Also, the capacity problems notwithstanding, the threats to validity reflect the inherent contrasts between the realities of social programs--such as vocational education--and the requirements of professional social inquiry to define and control (or to control for) those realities.

In advance of a discussion of the conditions of interpretability and utility, it is appropriate to emphasize that the primary question under discussion is the appropriateness of an inquiry paradigm to the realities of social problem solving. If the paradigm is to be questioned, the assumptions on which it is based must be examined.

Assumptions about the capacity to conduct evaluations and the validity of evaluation findings have been so examined. Even though the propositions posed cast doubt on both of these assumptions, the assumptions related to interpretability and utility can be examined independent of views on capacity and validity. The following discussion enters directly into the relationship between evaluative findings (even assuming their validity--thus, also the capacity to produce them) and the nature of social problem solving--or in this context--the nature of program improvement in vocational education.

Interpretability and Utility

Posed as positive assumptions about the worth of professional social inquiry to social problem solving, these two related conditions may be interpreted as follows:

- o Interpretability: Evaluative findings will help decision-makers in selecting alternative actions for improving programs.

- o Utility: The actual behaviors that constitute social problem solving are influenced by the findings from professional social inquiry.

If the results of professional social inquiry are to affect social problem solving positively, they should point to certain action alternatives as more

viable than others. If not, then they have no interpretability and are simply statements of facts (assuming their validity) that have no meaning in terms of how programs might be improved. The utility of findings is seen in terms of how programs might be improved, as well as in the correspondence between evaluations and subsequent program improvement behaviors.

It is recognized that the possible relationships between evaluations and interpretability or utility are, at best, inferentially determined. Unlike validity, interpretability and utility are not attributes of evaluations that can be judged independently. Instead, they are possible consequences of evaluations, their likelihood determined by the behaviors of decision-makers. Knowing how these groups think and behave as they pursue social problem solving is central to an understanding of the interpretability and utility of the findings of evaluations or other forms of professional social inquiry.

In order to put the assumptions held about the worth of professional social inquiry into context, the following excerpts are offered. These highlight the contrasts between those individuals who see inquiry as beneficial, even essential, and those who question its utility. Some optimistic views follow:

- o There has been agreement, both within and without the ranks of education, that systematic inquiry has much to offer. Indeed, there is agreement that massive, lasting changes in education cannot safely be made except on the basis of objective inquiry. (Cronbach and Suppes 1969, p. 12)

- o In order for the public to make rational decisions concerning investment in various education programs, comprehensive information about the costs and benefits of those programs is required. . . . No valid policy statement can be made from analyses that do not include these components, yet policy statements are made on the basis of incomplete information. (Hu and Stromsdorfer 1979, p. 195)

- o Evaluation of programs will nearly always contribute to the better service of students. Obviously, if evaluation offers both value judgments regarding what is happening within the program and consultative suggestions for improvement, then ultimately this will have an effect on students. The improvement of programs and offerings is the most important goal that evaluations can assume. (Wentling and Lawson 1975, p. 20)

- o Compared to other sources of knowledge, such as experience, authority, inductive reasoning, and deductive reasoning, application of the scientific method is undoubtedly the most efficient and reliable. (Gay 1981, p. 5)

Clearly, opinions about the worth of inquiry are widespread. However, opposing viewpoints do exist. For the most part, their authorship is outside of education. A sampling of less optimistic statements about the role of inquiry as it relates to program improvement follows:

- To believe, as a thoughtful person might, that societies can make significant headway against social problems does not imply that they can do so through PSI [professional social inquiry]. . . . A realistic view of social problem solving stands in contrast to the rationalistic view implicit among the most enthusiastic advocates of PSI. (Lindblom and Cohen 1979, p. 91)

- As for the other major premise on which the utility of evaluation research is based, that policy makers will heed research results and respond by improving programming, there is not much positive evidence of either. We have noted how the politics of program survival and the politics of higher policymaking accord evaluative evidence relatively minor weight in the decisional calculus. It is when evaluation results confirm what decision makers already believe or disclose what they are predisposed to accept that evaluation is most apt to get serious attention. (Weiss 1979, p. 536)

- In most educational organizations most of the time, goal-based planning models* are orderly facades that inhibit the management function of planning. (Clark 1980, p. 8)

The contrasts between these two sets of viewpoints are stark. How does one accommodate polar opposites? Let it suffice to say that reality is somewhere in between.

Assumptions are paradoxical. Those most central to our beliefs are the ones we are least able to express. This is true of assumptions about evaluation and program improvement. Those that come closest to permitting us to examine the core relationship between evaluation and program improvement are the least apparent and probably the most intractable. The following list provides samples of the assumptions that our behavior as evaluators might imply:

1. We live in orderly environments. There are causal conditions that give rise to patterns of consequences.

2. The role of evaluation is to understand better the order inherent in the things we choose to examine. Thus, we seek "impact," "products," and "outcomes" and try to establish the conditions that have caused them.

3. We have rules for looking at and reporting reality. Those rules emanate from the methods of science and are evident in our attempts to approximate reliable, valid, and generalizable statements.

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*The term goal-based planning models refers to "a comprehensive information base on which planning can proceed, including data on internal and external impact factors that will allow decision makers to assess alternative avenues of action." (Clark 1980, p. 2)

4. The core justification for our professional roles as evaluators is to provide information--consistent with the assumptions above--that will help others make better decisions.

5. A principal justification for better decision making is that problems should be solved more effectively (or that program improvement should be strengthened).

6. Given the above assumptions, it follows that if we have sufficient capacity to conduct evaluations and if our findings are valid, they will be interpretable and have a utility that will be observable in improved programs.

These assumptions are apparently straightforward and logical. As previously noted, however, because so many uncontrolled (and uncontrollable) variables exist in social systems, the final assumption gives pause.

As evidence accrues that evaluations do not have the hoped for and logically expected utility, we tend to reconcile these assumptions with this observation in one of three ways. Probably the most common reaction is self-recrimination leading to a "try harder" syndrome. This involves seeking to increase evaluative capacity and improve evaluative strategies so as to increase the validity of the findings. The logical and obstensibly sufficient goal of our efforts is increased capacity and validity.

The widespread tendency to react by trying harder is documented extensively. For example, following their comment that only "deep objective inquiry" can lead to safe and lasting educational changes, Cronbach and Suppes (1969) note that "inquiry into educational matters is essential but extremely difficult" (p. 13). They continue with the assertion that "if scholarship of the same order [as that in medical research] arises in education, and is used with equal intelligence by practitioners, education in the twenty-first century will pull ahead in the race between civilization and catastrophe" (p. 271).

The second way people commonly react to evaluations with apparent lack of utility is to attribute the problem to erroneous decision-making strategies. The task becomes, at the most ambitious level, to enlighten the decision makers, or--at the very least--to anticipate and cope with their errors. In either case, the frustration has to do with their "irrationality." Lindblom and Cohen (1979) remark as follows regarding this tendency:

> Perhaps the most familiar failures to achieve authoritativeness . . . stem from many irrational and nonrational human resistances to believing what . . . scientists generally say. . . . Their general tenor is to lay blame on users of PSI [professional social inquiry] and to suggest how the practice of PSI, especially the presentation of its results to potential users, has to be adapted to the shortcomings of the users. (p. 45)

Stufflebeam and associates (1971) highlight the "interface" role of the evaluator as an example of the importance of presenting results to potential users. They offer this caution.

> The evaluation specialist must be particularly adroit in this interaction with the decision maker. The best service of the decision requests that all the logical alternatives be considered; however, to be effective the evaluation specialist can deal only with the alternatives that are real for the decision maker. . . . This discussion does not mean that the evaluation specialist is a spineless "yes" man. Rather, it is a recognition that he must introduce new ideas into a decision maker's thinking in manners that affect their consideration. (p. 298)

Undergirding the "new ideas" that an evaluator should introduce to decision makers is the utility of valid findings for improving decisions, making them more empirical, defensible, and most importantly--rational. In fact, the dichotomy is often made between "rational," in which decisions are made on the basis of hard evidence, and "nonrational," in which other factors are considered. "The decision maker who takes such other factors [e.g., political grounds] into account is not being irrational but is basing his [or her] decisions on nonrational factors" (Stufflebeam et al. 1971, p. 333).

Reactions of the second type are also seen in what Weiss (1977) entitles--and challenges--as the "conventional wisdom" approaches to increasing the utility of social research for public policymaking.

> Other mild and mannerly reforms have been urged. Since the aim has been to facilitate the transfer of knowledge, these reforms tend to stress communication:
>
> computerized information systems that contain abstracts of research retrievable by key word;
> increased personal contacts between researchers and policymakers to develop trust and communication;
> training for decision makers in social science method and theory;
> recruitment of more social scientists into positions of authority;
> greater willingness of researchers to interpret and promote their results;
> more critical syntheses of existing knowledge to ease the burden both of the search for appropriate research and the assessment of its validity and appropriateness.
>
> So much for conventional wisdom. (p. 6-7)

The third tendency is to hold a view of social problem solving devoid of any presupposition that it would necessarily be improved if aided by the effort of professional social inquiry. The contrasts between the assumptions upon which professional social inquiry is based and those that may be inferred from the behavior evident in social problem solving must be made evident in order to do this.

Propositions about Interpretability and Utility

We turn now to some additional propositions. These are offered to help guide the activities of individuals seeking to use this third approach.

Pursuit of Authoritativeness

The commonly held assumption of professional social inquiry is that information is authoritative by virtue of its scientific conclusiveness. Further, it ought to be sufficiently authoritative to warrant direct action on the part of decision makers. The contrasting assumption is that such information--no matter what its validity or scientific conclusiveness--is at best dependently authoritative and almost never independently authoritative. In other words, if the information does not correspond to and reinforce ordinary knowledge--in which case it is dependently authoritative--it cannot have an authoritativeness independent of this ordinary knowledge.

Lindblom and Cohen (1979) suggest that such misperceptions on the part of professional inquirers arise from a deeply rooted belief that scientific inquiry is the pursuit of verified propositions. They continue as follows:

> Science is, in such a view, the pursuit of truth, a method of eliminating false opinion, a way to perceive reality correctly. Even if they allow for persistent error and long-standing differences in findings, most scientists and pPSI [persons in professional social inquiry] find it difficult to conceive of science and professional investigation as other than a process that ultimately moves toward convergence on propositions, toward an increasingly correct representation of reality. All these notions seem to imply that pPSI should pursue confirmed knowledge or scientific conclusiveness. And from the aspiration to achieve scientific conclusiveness, it is assumed that one can take a quick, short jump to authoritativeness. (pp. 44-45)

Other writers make similar points in statements such as the following:

- The ultimate test of data acceptability is political. . . . Rarely are data in their own right of such compelling force as to override their political significance. (Caplan 1977, p. 195)

- We should not, and fortunately probably cannot, overwhelm the political judgment of the Congress with masses of factual data and technical analysis. (Dreyfuss 1977, p. 107)

The proposition related to authoritativeness as it relates to vocational education follows:

- Proposition 5. Seldom will evaluation findings that do not confirm their views be seen as authoritative by those responsible for improving vocational education. Further, the utility of such findings is dependent on their correspondence with the ordinary knowledge that decision makers have of their environments.

The Synoptic Ideal

Gross (1979) presents a model of what has been called the synoptic ideal of decision making. He suggests that the proposed model has the advantages of

defining all relevant variables, quantifying subjective information, and permitting all relevant information to be synthesized. The approach proposed by Gross for vocational education is one that consists of "first describing the set of possible decisions that are available to the decision maker, second, quantifying the intrinsic worth or value of each possible decision in terms of a utility value . . . and third, choosing that decision which possesses the highest utility value" (p. 111).

The assumptions underlying such strategies and steps for decision making are questioned by Braybrooke and Lindblom (1963), when they explain the failure in practice of such strategies as due to the "confusion between conceivability and practicality, or between operability in principle and operability in practice" (p. 48). They continue by citing examples of the failure of the synoptic ideal under eight separate propositions and arguing that the synoptic ideal is not adapted to the following situations:

1. Man's limited problem-solving capacities
2. The inadequacy of information
3. The costliness of analysis
4. The failures in constructing a satisfactory evaluation method
5. The closeness of the observed relationships between fact and value in policy making
6. The openness of the systems of variables with which it contends
7. The analyst's [decision maker's] need for strategic sequences of analytical moves
8. The diverse forms in which policy problems actually arise (pp. 48-54)

In short, they assert that synoptic approaches simply have not and will not work. In fact, they define the synoptic ideal in terms of the attributes its advocates give it rather than by describing instances in which it has been actually used--because no such instances can be found.

Some evaluation efforts in vocational education apparently accept the assumptions implicit in a synoptic decision-making strategy. For example, many of the features of the 1976 Amendments to the Vocational Education Act (P.L. 94-482) appear to support a synoptic approach. If the legislation and subsequent guidelines and policy directives were fully implemented, the U.S. Congress, federal administrative offices, and state and local education agencies would now be able to weigh the following kinds of evidence in their deliberations about how vocational education can best be improved to serve the public interest.

- o Summaries of several million records of students' achievement both in school and in their initial jobs
- o Data from their employers about whether these students were well trained and prepared for employment
- o Quantified evaluations of the extent and quality of each vocational education program in each state on dimensions such as--

- planning and operational processes
- student achievement
- student employment success
- results of special services to women, minorities, handicapped and disadvantaged individuals, and those with limited English-speaking abilities

o Management evaluation reviews for compliance and quality (MERC-Q) of all states and territories

o Data on national occupational demand (via NOICC*) interfaced with comparable information in each state (via SOICC**)

o Meta-evaluation reports from each state advisory council on vocational education

o The independent findings from the several evaluations conducted or commissioned by the National Institute of Education

o Selected national evaluations of vocational education conducted by the National Advisory Council for Vocational Education

o Annual accountability reports from all states and territories

o State plans with quantified goals from all states along with comments incorporated from the public hearings held in each state

Braybrooke and Lindblom's (1963) first proposition about the synoptic ideal is that it is not adapted to man's limited problem-solving capacities. They elaborate on this limitation as follows:

> The synoptic ideal not only fails to incorporate simplifying strategies but compounds the analyst's difficulties by insisting on comprehensiveness of analysis. To insist on comprehensiveness is to rule out at the start many techniques for simplification, since omission is a chief principle of simplification. (p. 50)

Strands of various synoptic approaches may begin quite modestly, but they appear to increase to the point of confusion. The past twenty years of federal prescriptions for evaluation and vocational education's response to such requirements are not unlike this.

The proposition to be offered about the utility of synoptic approaches to providing information from evaluation for program improvements in vocational education follows:

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*National Occupational Information Coordinating Committee
**State Occupational Information Coordinating Committee

- Proposition 6. The chances of utilizing all existing evaluation findings about vocational education decrease in proportion to appropriate decision-making groups' ability to--

  - perceive a need for them,
  - obtain them,
  - accept them,
  - understand them as a coherent whole,
  - reconcile their implications with the values they hold,
  - act on them through synoptic policy decisions.

Interactive Problem Solving

The rational ideal carries with it an assumption that problems are to be solved through thought and analysis--preferably based on the verified findings of evaluation reports. Yet this view of the decision-making program improvement process ignores the many situations in which social interaction actually displaces the so-called analytic problem-solving process. Some alternatives to the use of professional social inquiry in social problem solving are exemplified by public hearings, the committee process, parliamentary procedures, and elections.

Many of these interactions are ceremonies in which the rules of action are prescribed and scrupulously followed. Adherence to such rules may give the appearance of analytic, "rational" behavior. But they often mask--and provide rationalizations for--nonanalytic behavior. The program review process in vocational education may well be an example of such a ceremony. The procedures for conducting program reviews are lengthy and detailed, especially in those states where the process is most well developed. In addition, much of the process involves the review of masses of data, and the judgments of the reviewers are frequently combined into quantified entries on various forms. The forms themselves can be aggregated, synthesized, and partitioned in ways that yield elaborate displays of data. The process and the data certainly appear to be analytic and rational; here is the relationship between professional social inquiry and program improvement in action.

The alternative explanation--afforded by beginning with different assumptions--is that this is action (social interaction) in progress in a form that functions as a ceremonial substitute for an analytic process. The focus of the reviews is on standards and criteria. There are often hundreds of them, typically clustered into areas such as scope and content of programs, planning and evaluation processes, quality and extent of ancillary reviews, adequacy of personnel, program management, use of other community resources, and so on.

The origins of the standards and criteria--which usually appear in the form of guidelines and checklists--are assertions about program quality that are presumed to have a relationship with evidence of quality. Thus, if such an item as "clarity of instructional objectives" appears (and some version of it almost always does), an assumption--not evidence--establishes a relationship between the degree of clarity and some external index of quality such as

proficiency in performing some job. Ironically, those items having to do with obtaining sound evaluation data on external quality indicators--such as follow-up studies--have the same presumed relationship to program quality. It is assumed that districts or states that have good follow-up systems should have better programs. It would be strange, indeed, to assume that the relationship between the two is spurious, even inverse.

The point is that the program review process, which is the most prevalent form of evaluation practiced in vocational education (Smith et al., 1979) may well be an effective technique for promoting program improvement. It is often an intensive effort involving many well-informed people who are interested in improving programs. But the reasons for programs being improved through this process are far more likely to be derived from the process itself (a process of social interaction) than from the apparent rationale of using findings from professional social inquiry for making rational, analytic program improvement decisions.

The review process is essentially a tautology: Quality programs are those that have these presupposed characteristics; therefore, programs judged to have these characteristics are quality programs. If programs are found wanting on some of the characteristics and the administrators are correcting some of the "deficiencies," they are, in fact, improving programs. Throughout the program review process, the strict adherence to rules, procedures, checklists, report formats, and the like permits the entire process to become a substitute for analytic problem solving. This is not to suggest that problem solving is not occurring; it may well be, and it may be much more effective than that which might be brought about by professional social inquiry.

Similar examples of social interactions serving as substitutes for analytic behavior might be seen (1) in the flow and submission of plans and accountability reports from the local level through state to federal levels, (2) in the use of public hearings, (3) in the requirements of the NOICC and SOICCs, (4) in the deliberations of state or local advisory committees, or (5) in carrying out meta-evaluations of vocational education's evaluations. In each case, it may well be "that the various forms of interaction among people, in which what they do, rather than what they think, or anyone else thinks about that problem moves toward the solution or preferred situation" (Lindblom and Cohen 1979, p. 20).

Lindblom and Cohen (1979), in making the point that professional social inquiry often fails to recognize the problem-solving function of social interaction, concede that the real issue, and the real challenge to professional social inquiry, is the possibility of a complementary relationship between the two modes of social problem solving. Problems are created when the assumptions of professional social inquiry force one to relegate interactive problem solving to a realm of less sophistication and effectiveness than that of rational, analytic problem solving.

The problem is further confounded when interactive processes are disguised as analytic ones. In these cases, we are misleading ourselves and others into thinking that our ceremonies are something other than ceremonies, that ceremonies are necessarily ineffectual as social problem solving

processes, or that "sound" problem solving should always have the authoritative ring of professional social inquiry associated with it. This proposition is offered as an alternative to the set of assumptions we typically employ to justify the role of professional social inquiry in social problem solving:

- o Proposition 7. The consequences that stem from nonanalytic social interactions within vocational education's environment are far more likely to affect programs than current evaluation practices. Problems are created when--

  - assumptions about proper problem-solving behaviors force a rejection of the foregoing assertion.
  - nonanalytic social interactions are viewed or portrayed as instances of professional social inquiry.
  - positive effects on programs are assumed to be more likely if based on valid evaluation results.

Pursuit of the "Decision Maker"

Since evaluations are intended to improve decisions, one must assume the existence of some identifiable individual or group as the decision-making recipient of the evaluations. The mechanistic metaphor that undergirds much of the evaluation activity in education forces this assumption and thereby creates yet another problem for the evaluation-program improvement relationship. For example, the data that are displayed through various gauges and printouts for those decision makers operating machines--from airplanes to garbage trucks--have a direct and usually unequivocal meaning for those known decision makers.

This analogy can be applied to the operators of our educational "systems" who must make decisions about the systems' "inputs," "processes," and "outputs" in order to monitor, adjust, recycle, or restructure as necessary to maintain an efficacious input-output relationship. Our assumptions insist that decision makers need such information and that these individuals can be identified.

The extent to which this perception is erroneous is seen most clearly in attempts to establish, after the fact, the identification of decision makers--especially in instances where the decision consequences are seen as negative. Beyond the simple "buck-passing" syndrome, it is often true that it is virtually impossible to ascertain the locus of decisions in education. The intertwined collage of prescriptions, report flows, and checks and balances among the local, state, and federal levels of jurisdiction in vocational education compounds the problem of identifying decision makers.

The assumptions that decision makers have been identified before the fact, and that there is need for evaluative information are particularly tenuous in vocational education. The amount of administrative turnover at all levels adds to the problem. The pattern at the federal level is such that it has been termed the "cyclical amnesia" syndrome by observers in Washington, D.C. An additional issue is the misperceived, but apparently widely held,

assumption that the agency or individual requiring or requesting an evaluation is the one who will use it. Even more naive is the assumption that the reasons expressed by decision makers for completing evaluations necessarily bear any relationship to the real reasons they are conducted.

Weiss (1977) comments as follows about assumptions regarding decision makers.

> Almost all discussions of the use of research in policy making start from the premise that at some discernible place and time policy gets "made," that there are people who see themselves and are seen by others as decision "makers," and that singly and collectively they make arrangements to solve a problem. The assumption that there are identifiable actors who make a policy sometimes contradicts reality.
>
> In some circumstances, locating any people who are charged with responsibility for making a decision is difficult. Different organizations have very different decision structures, and in some, the divisions of responsibility are sliced so fine that there seem to be nobody and no group with sufficient authority to move. . . . In such amorphous and diffuse decision processes, the use of social research is equally imperceptible. (p. 11)

The following proposition is offered about the decision-based orientation of vocational education evaluation:

- o Proposition 8. The probability of identifying a decision maker or decision-making body in vocational education that has needed and acted upon evaluation findings for program improvement is decreased to the extent that--
  - the decision makers requesting an evaluation are not those intending to use it,
  - the decision makers requesting an evaluation are no longer in those roles at the completion of an evaluation,
  - authority for program improvement is dissipated across several groups and levels of jurisdiction,
  - the motives for an evaluation are not expressed by the purposes claimed for an evaluation,
  - the decision making process is based on ordinary knowledge and/or a social interaction process.

Primacy of Goals and Organizational Efficiency

There are several other assumptions necessary to accept a relationship between evaluation and program improvement. But the realities required for these assumptions to be plausible and those that actually exist are often more than just misaligned a bit and reconciled by compromise; they are instead fundamentally incompatible. To accept such assumptions and conduct evaluations accordingly is to run head on into their contrasts to reality. Our notions about goals and organizational efficiency represent the two most widely held of such assumptions.

Logic demands that programs be evaluated in relation to explicit goals and that rational improvement decisions must narrow the gap between the evidence and the goal. Assumptions about the primacy of goals constitute--especially in vocational education--the most deeply held, and least malleable, of all assumptions. A close second is the related assumption about the necessity of efficacious organizational behavior. Taken together, these assumptions form the rationale for most evaluation efforts: Because organizations are purposeful, goal-seeking entities that structure themselves in ways that permit them to seek out evidence of their progress toward their goals and make efficient corrections as necessary, it follows naturally that evaluations will focus on progress toward goals and provide the needed feedback, and that the organization will adjust its behavior accordingly. The type of organization best able to do this would have the following classic characteristics (McKibbin 1981):

- o A hierarchical organizational structure that systematically orders communication and authority among formally established positions--An employee would report to only one supervisor. Authority would be commensurate with responsibility.

- o Division of labor based on functional specialization--Employees would be assigned to areas of specialization.

- o A system of procedures, rules, and regulations covering the rights and duties of employees in work situations--Rules and regulations would avoid confusion and misunderstanding.

- o Promotion and selection based on technical competence--Rewards would be based upon performance.

- o Rational, systematic, goal-oriented organizational processes--Specifying objectives improves performance. Organizations exist to attain specified goals. (pp. 4, 12)

Similarly, the goals to which the efficient organization aspires should have the following characteristics (Clark 1980, p. 2).

- o Explicit. Goals are expressed and formally sanctioned by the organization.

- o Consentient. Goals are understood and shared by all organizational participants, singly and in subgroups.

- o Substantive. Goals focus on organizational products.

- o Nomothetic. Goals are dominated by institutional aspirations.

- o Concrete. A goal is operational in its definition; it can be employed effectively in defining organizational evaluation.

- o Certain. Goals are posited with confidence.

Each of these conditions is usually thought of as facilitating program improvement through evaluation. Certainly, at the extreme, it is difficult to imagine evaluations leading to improvements in organizations that are disorganized and do not aspire to known goals.

Clark (1981) provides the following reasons for questioning whether many of the organizational characteristics listed apply to educational organizations.

> Educational organizations are archetypal, loosely coupled systems. If you examine your school, you are sure to find examples of (1) independence rather than interdependence among units; (2) processes that seem disconnected rather than linked; (3) actions isolated from consequences; and (4) individuals who function with little or no supervision. You will also discover organizational participants who are oblivious to these loose couplings and decouplings, or who deny their existence. (p. 33)

These notions suggest new assumptions about educational organizations: "Maybe they all are really like that, not just the ones I've known"; and "Do we forever grant exceptions to excuse the realities around us or might we begin to suggest that those exceptions <u>are</u> the realities?" Also, "Should we continue to pursue ideals whose origins are much less clear to us than the evidence of their futility?"

Although this viewpoint does not provide justification for summarily rejecting many of our traditional assumptions about the primacy of goals and organizational efficiency as conditions facilitative of program improvement based on evaluations, it does provide a basis for speculating on some of the contrasts between assumptions and reality that might exist in vocational education. Consider, for example, the lists of possible contrasts provided in table 1.

In light of the foregoing, the following proposition is offered as a final speculation about conditions in vocational education--and, as with the other eight propositions, in any other social program--which further mitigate the possibility of evaluations serving to improve programs.

- <u>Proposition 9</u>. Traditional assumptions about the primacy of explicit organizational goals and efficiency in pursuing such goals on the basis of evaluative feedback constitute an anachronism based on an inaccurate perception of vocational education's processes, structures, and functions. To the extent that these assumptions continue to be accepted, the chances of positive adaptations to future environments diminish.

TABLE 1

CONTRASTING ASSUMPTIONS AND PROBABLE REALITIES

Condition	Assumption	Probable Reality
Learner Intent	Clearly, vocational education's overall goal is occupational preparation.	Less than one-half of all vocational education enrollments are in programs of occupational preparation.
Relationships	The relationships between federal, state, and local levels of vocational education are reasonably clear and there is accountability.	The locus of control for the direction and improvement of vocational education is at the local level--vested principally in instructors, most of whom are unaware of or disinterested in federal intents and prescriptions.
Evaluation Incentives	Local agencies, supported by state departments, want and need evaluations for program improvement. As goal-seeking organizations, they are structured to seek and act on such feedback.	For many local agencies, evaluations are necessary evils to be tolerated and dispatched as quickly as possible. They see no relationship between evaluations and program improvement. Disincentives to conducting rigorous evaluations actually exist.
Basis of Content Selection Decisions	The most important decisions are those that determine content. Thus, the best predictor of those decisions is empirical evidence of the content's fidelity to job requirements.	The best predictor of content is a knowledge of past traditions, the interests of tenured instructors, and the type of facilities and equipment available.
Linkages	The array of actors, agencies, prerogatives, and responsibilities in vocational education is complementary and systematic--all contributing clearly to improved learning opportunities.	The most "accurate" depiction of the collective consequences from existing linking agencies is that of an "organized anarchy."

ALTERNATIVES AND OTHER AGENDA

The principal purpose of this paper will have been accomplished if thoughtful readers responsible for evaluation or program improvement in vocational education reexamine their assumptions about the evaluation-program improvement relationship. It is hoped that such reexamination will be the catalyst necessary to bringing about constructive change.

The premise of this paper is, As evaluation is presently practiced in vocational education, there is little discernable evidence that it contributes to program improvement; in fact, in many cases evaluations may well be counterproductive to program improvement. Nine propositions have been offered in support of this premise. They are structured around limitations in capacity, validity, interpretability, and utility. Thus, the argument has been set forth that evaluations do not presently contribute greatly to program improvement. The obvious question then is, "What should be done if program improvement efforts are to be more effective?"

The "Stop!" Alternative

The first answer is to stop pursuing evaluation activities that are purported to contribute to improvement but that, in reality, do not. The alternative is, if such evaluations are to continue, the labeling of them as program improvement enterprises should cease.

In the case of the first prescription, it is suggested that most evaluation activities would cease if that approach were followed. In the second case, it is suggested that we would discontinue program improvement rhetoric. We would instead classify evaluations in ways more accurately (and--it would be argued here--more ethically) aligned with the functions they fulfill. Note that the functions they fulfill do not necessarily have any relationship to the purposes expressed to legitimize them.

The first response will do much in and of itself to permit program improvement to become freed from the evaluation enterprises we claim as necessary to its progress. Similarly, evaluations that fulfill other functions (some of which are legitimate--perhaps even necessary) can continue about their business of fulfilling these functions unfettered by the expectation that they contribute to program improvement. Consider for example, the following possible functions (not purposes) and speculate on where we might place many of our existing evaluations and how they might change if we were to so classify them.

Advocacy

Evaluation is seen as a tool (in some cases, a necessary one) to be used by agencies and organizations having the responsibility for documenting their progress, accomplishments, and problems in fulfilling the purposes various publics hold for them. Such evaluations contribute directly to the content of reports and presentations such as those made by--

- o United States presidents, governors, mayors, or university officers in their annual "state of the union, state, city, or university" addresses;
- o professional organizations or lobbies in education;
- o reports to stockholders;
- o annual reports on the accomplishments of vocational education.

Compliance as Means

Data and findings are supplied to others as a means for pursuing desired directions. Examples in this category include providing plans, accountability reports, and other completed forms to federal or state offices. Evaluations used as means to ensure compliance serve a screening function. Those who wish to comply will do so, prompted by a desire to enjoy positive or avoid negative sanctions that those requesting the information could bring to bear. Others will not. The pragmatic test used is whether the cost of providing the information is worth enjoying or avoiding such sanctions. There are two ethical tests. One is whether the requesters need such information to apply their sanctions fairly. The other is whether those supplying the information can argue that any intentional inaccuracy in the information is warranted by the value of the desired sanctions they wish to pursue in relation to the perceived fairness by which the requesters apply sanctions.

Ritual

Ritual evaluations fulfill the function of signifying to interested publics that various information exchanges (themselves rituals) present valued behaviors--the substance of which cannot be represented by information exchanges. Thus we have such things as disarmament talks and treaties, and United Nations deliberations. We also have annual state plans, accountability reports, and justifications for distribution of funds. Ritual evaluations overlap with "compliance as means" evaluations only to the extent that information providers and requesters expect the information to represent past or planned behaviors.

Adjuncts to Social Interaction or Ordinary Knowledge Problem Solving

In this instance, evaluations fulfill the function of contributing--however modestly--to the processes by which human beings engage in behavior that they believe to be more adaptive to their environment than previous behavior. To the extent that the findings from professional social inquiry supplement, confirm, or enrich the ordinary knowledge on which people base their behavior, or to the extent that such findings assist them in finding ways to interact, evaluations contribute to the function of program improvement.

Other Functions

Other writers have suggested several additional reasons why evaluation might be used. They include using evaluation for such other functions as the following:

- o Evaluation is used to delay action; avoid taking responsibility for a decision; win kudos . . . discredit an opponent or a disliked policy; maintain prestige; keep [evaluators] solvent; serve as a training ground for [evaluators]; generate further research. (Weiss 1977, p. 15)

- o Evaluation is used for setting realistic expectations; guiding policy; political values. (Morell 1979, p. 244)

- o Evaluation is used to justify a federal role at all; to allocate funds; to meet proposal requirements; to prevent waste; to comply with regulations. (Datta 1979, p. 67)

The point of the "Stop!" alternative is simply to encourage us to ask what the consequences of evaluations really are and then either to label and pursue them accordingly or to discontinue those that are not worth completing.

Content and Learner Selection Decisions

The second alternative focuses on content and learner selection decisions. The premise in this case is that the only decisions of consequence in any area of education are those that determine what will be learned and by whom. In other words, the only ultimate standard that can be applied to determine the adequacy of education is that it is right and that it is fair. All other decisions and standards are subsidiary to these.

In a conceptual framework related to "employability institutions" (which include public vocational education), Walker and Pratzner (1981) portray all such institutions as being distinctive or adequate principally on the basis of the content they teach. The following excerpt from this framework is provided to explain further the position that all other characteristics of such

institutions (in their nomenclature, processes, patterns, structures, or functions) follow from, and are justified only on the basis of, the opportunities they provide for teaching content.

The following equation defines purposeful work socialization institutions (PWSI) as being a function (f) of their capacity and abilities to provide opportunities to acquire various competencies (C_O) (including the fairness of these equations) plus the frequency, intensity, and duration of attention they in fact give to those competencies (C_F, C_I, C_D).

$$PWSI = f(C_O, C_F, C_I, C_D)$$

This view of PWSI forces us to look at all other attributes, conditions, and variables affecting PWSI as contributing to, or inhibiting, their capacity to teach content. If sight of this central view of PWSIs is lost, evaluators easily become diverted into looking at such things as process or pattern as ends in themselves.

This formulation states that the competencies (C) actually addressed and, it is hoped, inculcated by PWSIs stem from the processes (PC) employed, the patterns (PT) these institutions form with their environment, the structures (S) by which they allocate resources and authority, and finally, the functions (F) or range of consequences that accrue to the larger social unit.

$$C = f(PC, PT, S, F)$$

Processes (PC), then, result principally from different variations in instructional techniques (IT), the ability of learning facilitators (LF_A), and the interest of the learners (L_I) exposed to those learning facilitators and instructional techniques.

$$PC = f(IT, LF_A, L_I)$$

Pattern (PT) refers to the set of interdependencies (I_I) established with the environment surrounding a given PWSI or sets of PWSIs. These refer to the means by which an organization seeks support nourishment and avoids punishment from its environment. Pattern is a function of the mix among incentives to establish such interdependencies (I_I) and disincentives (D_I) to do so.

$$PT = f(I_I, D_I)$$

The structure (S) of any organization refers to the configuration of rules, roles, and relationships by which it attempts to fulfill its purposes.

Structure results from the amount and continuity of resources (R_A+C) (principally dollars) that support the institution. Note that amount and continuity are important distinctions depicting the structure of a PWSI. Much of the seemingly erratic behavior of many PWSIs (especially those with federal funding) can be attributed not just to the amount of resources available, but also to uncertainties about their continuity. Further, structure is a consequence in part of the policies (PL) established by the organization. These policies represent some translation of external requirements and internal needs. Finally, policy style (P_S) determines much of an organization's structure. This refers to important but elusive concepts such as leadership, ambiance, and so forth.

$$S = f(R_A+C, PL, P_S)$$

Finally, function (F) is seen as the range of consequences that accrues from the existence of an organization. Whether positive or negative, latent or manifest, intended or unintended, immediate or long term, these consequences and changes in those consequences stem from some feedback (f) or interpretation of social needs (SN) as it is translated--however imperfectly--through the political support (PS) of the PWSI.

$$F = f(SN, PS)$$

Although the symbolism and terms of these ideas are not those typically used to depict vocational education, the importance of opportunities to teach content is clear in their framework. Also, they establish the case for looking at everything else that might be changed in vocational education as justifiable only on the basis of decisions related to the opportunity to teach content. This point is central to the program improvement alternative being proposed. It means, for example, that it is relatively unimportant, at best--at worst, damaging--for a vocational education institution to decide on such things as the following unless such decisions can be justified, based on prior content and learner selection decisions:

- Hiring or firing instructors, administrators, evaluators, etc.
- Building new facilities
- Acquiring new equipment
- Establishing linkages with whomever
- Seeking additional funding sources
- Forming new organizational structures
- Conducting evaluations of any type

- o Changing curricula
- o Revamping philosophies
- o Changing teacher education or university graduate programs

Content and learner selection decisions are those that determine what is to be taught and to whom. "Right" content selection decisions are those that provide students with an opportunity to acquire competencies that the publics to whom vocational education is responsible believe are necessary to increasing the satisfaction and productivity of the students' careers.

"Fair" learner selection decisions are those that permit "right" content opportunities to be provided to all students who will benefit from them. "Program improvement" then, is the process by which content and learner selection decisions become more "right" and more "fair." Although these definitions reflect the familiar themes of "relevance" and "equity" as hallmarks for improvement in vocational education, they are highlighted here as consequences of content and learner selection decisions in order to reinforce the point that these decisions have the following characteristics.

- o They are made by design or default by all vocational education institutions; they cannot not be made.
- o They supersede all other decisions; means will not create ends if the centrality of these decisions is to be reflected in practice.
- o They provide the only logical bases for defending program improvement processes.
- o They will (consistent with the interpretability and utility propositions presented earlier) be made largely on the basis of ordinary knowledge and a social interaction process of program improvement.

If there is any hope of evaluation serving program improvement functions, it must become a supplement to these selection decisions. It is on this point that an optimistic scenario can be developed pointing to a relationship between evaluation and program improvement. The scenario requires these two conditions:

1. The locus of content and learner selection decisions must be at the local district level; state and federal levels might provide technical assistance, but they cannot make these decisions. Their influence is much like that of evaluation findings on program improvement; if they are accepted, the most that can be hoped for is that their input will supplement the ordinary knowledge and interactive processes on which these decisions are based.
2. The content and learner selection decisions should be explicit and public, as should the processes by which they were made.

Both of these conditions must be genuinely met. If either is seen or practiced as yet another compliance obligation, then all that will be generated is more paperwork. It is not evident how local districts might move toward these two conditions. It seems safe to assume that if they choose to do so, they will find a way. Given the nature of the propositions set forth in this paper, to prescribe or itemize how they should do so is both presumptuous and contradictory. In its simplest form, a local district might begin by providing a statement following a format such as the example provided in figure 2. This statement would accompany all courses and programs of instruction offered in vocational education and would be made available to the various publics to whom vocational education is responsible (e.g., students, parents, other taxpayers, state and federal agencies, employers, etc.).

This example indicates the type of information to be made available. If conscientiously implemented, such annual content and student selection decision reports could set in motion a positive process of program improvements based on the realities of both social problem solving and professional social inquiry. The positive scenario would contain the following elements:

1. Legitimacy and autonomy would be afforded the local authority in making these decisions. Although some checks and balances would remain, and others would emerge over time, providing local districts with this right and responsibility removes much of the resentment--and consequent patterns of evasion--between local districts and various state, regional, and federal agencies.

2. The "we-they" relationship between general education and vocational education at the local level might become less strained in the process. The local vocational administrator and the vocational staff would become central actors in the local decision-making process. They would be viewed less as extensions of state or federal agencies making such decisions largely apart from--and naturally resented by--other local administrators and policy groups.

3. The selection decision statements, being explicit and public, would constitute a tacit invitation for public response. If the statements' rationales are suspect, objectionable, illogical--even irrational--in the minds of these publics, one must assume that those concerns would be expressed, heard, and eventually acted upon. If this assumption cannot be accepted, then grave doubts about the role of public education in a democracy might exist.

4. Local school personnel, including teachers, administrators, and boards, would--in anticipating these explicit and public statements--place more importance on these selection decisions and eventually begin to see other decisions about their processes, patterns, structures, or functions as subsidiary to, and justifiable by, their selection decisions. In turn, these subsidiary decisions would become more understandable and defensible to both themselves and the public.

5. The principal rationale for the initial selection decisions (perhaps for several years) would be based on ordinary knowledge and social

FIGURE 2

EXAMPLE OF A SIMPLIFIED STATEMENT

CONTENT AND STUDENT DECISIONS: RATIONALE

The _____ school district has decided to continue/discontinue/expand/cut back its program of _____ instruction in vocational education because:

RATIONALE--(Statement of reason for above decision; could include precedent, history, opinion surveys, public meeting, instructors' views, administrative fiat, student demand, labor market surveys, expense of facilities/equipment, default (no good reason not to), committee decisions, state department suggestions/requirements, federal suggestions/requirements, futures studies/scenarios, national-state-local occupational demand information, student testing, etc.)

PROCESS--(The processes by which this decision was made; may be implied by rationale but could also include voting, computer analyses, public debate, advocacy hearings, program reviews, school board meetings, job/task analyses, etc.)

Further, because public education has the legal and moral responsibility to ensure that no group of students is denied the opportunity to enroll and succeed in this program, these actions will be taken: (Recap of decisions and commitments; might include recruitment campaigns, diagnostic testing, remedial instruction, tutoring, lottery enrollment system, compensatory enrollment system, follow-through services, etc.)

Attachments:
- ____ course syllabus
- ____ instructor resumes
- ____ facility/equipment brochures
- ____ synopses of evaluations, data syntheses, minutes of meetings, opinion surveys, committee reports, etc.

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learning. The principal process for arriving at the decisions--or pursuing social problem solving--would be through social interaction. Evaluation findings would be used as occasional adjuncts to these knowledge bases.

As the process matures, public scrutiny and the genuine need to make the selection decisions as "right" and as "fair" as possible should lead to an increasing use of professional social inquiry as a means of justifying the decisions. Most importantly, the evaluations would originate from the real needs and motives of the individuals and groups who will use them. Perhaps for the first time, the possibility exists that evaluations would be undertaken in which—

- o the expressed purposes coincided with the motives for the evaluations;
- o the purposes coincided with the functions of the evaluations;
- o the users of the evaluations were those requesting them;
- o the validity of the findings were more important than their nomative concurrence;
- o decision makers and evaluators expected the findings to supplement--not predict--subsequent decisions;
- o the evaluations were disjointed and incremental because the decisions they hoped to supplement were also disjointed and incremental; neither one is synoptic;
- o evaluations could legitimately pursue a "discovery" mode in which the extent of presumptive knowledge (or ignorance) of a theme, topic, or issue determines the evaluative tools and approaches to be employed--rather than the availability of tools determining the mode of inquiry and therefore its focus and substance.

The elements of the scenario outlined in this list are but skeletal possibilities of what might emerge. However, this alternative is apparently the most viable. It is hoped that readers will consider its merits, reflect a bit on the realities of what they see around them, and ask whether they wish to continue to accept or express the same assumptions as before about evaluation and program improvement in vocational education.

Other Agenda

Listed here in the form of questions are issues that warrant additional attention. The questions differ widely. The "decision rule" used to govern their inclusion is "when in doubt, do." The questions and occasional points of advice follow:

1. How can vocational education credibly demonstrate its accomplishments and its limitations to the U.S. Congress? The accountability syndrome

has escalated in the past twenty years to a point where it now exists as a meta-reality with rules of its own far removed from once understandable origins and purposes. A function of paper flow and compliance has replaced a purpose of information exchange and communication. Further escalation of this syndrome is the best prediction; "Stop!" is the best prescription.

2. How can the "Is it worth it?" question be sensibly answered? This question is both important and legitimate, especially at the federal level. It cannot be answered by using locally derived data. If the question warrants an answer, an independent evaluation should be conducted on the basis of careful and parsimonious national sampling with concerted attention given to standards of validity and longitudinal designs. With prudent use of the findings, we would expect equivocality and see the real question as, "Under what conditions and criteria might selected outcomes of vocational education correspond to the values various publics attach to it?"

3. Given all the possible limitations of professional social inquiry, what should be the role of educational research? As idealistic (and perhaps, contradictory) as it might appear, educational research should be expanded. But it should be conducted under conditions that--

   o are as apolitical as possible;

   o anticipate its findings to take at least a generation to be reflected in changed practices; the "research utilization" process is far more aptly seen from an ecological metaphor of gradual adaptation than a mechanistic metaphor of impact and utility;

   o insist upon as much discipline-based (behavioral/social science) research as possible. With the recommendation comes the humbling (and for some, antagonistic) recognition that "educational" research has no theoretical base and must borrow from those disciplines that do.

4. How can tomorrow's vocational education leadership be prepared to make decisions which adapt better to the environments in which they will provide leadership? The position taken in this paper is that they can best do so by learning to extract and examine assumptions--especially those that are unquestioned because of their prevalence and the passion with which they are held. To do this requires university graduate experiences fundamentally different from those that now exist. The theme of the needed differences could be seen in gradual shifts from certainty to humility; from disdain for theory to centrality of theory; from evaluation to professional social inquiry; from program improvement to social problem solving; from mechanistic metaphors to ecological ones; and from a vocational versus liberal education stance to vocational education as a necessary means toward a liberal education.

The foregoing alternatives and other agenda have been offered in the spirit of constructive debate about evaluation and program improvement in vocational education.

Evaluative activities exist to improve program improvement efforts and can, in fact, do so. However, the contribution of present practice in vocational education evaluation to program improvement is doubtful. The major obstacle is apparently the inability of practitioners to interpret and act appropriately on evaluative information. The time has come to pause and take a fresh look at the purposes of evaluation and the extent to which it is being implemented in service to those purposes. A second look at our assumptions about the relationship between evaluation and program improvement can become the springboard to constructive change.

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